



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 15

[ET Docket No. 16-56; FCC 16-23]

Unlicensed White Space Devices

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) proposes to amend its rules to improve the quality of the geographic location and other data submitted for fixed white space devices operating on unused frequencies in the TV Bands and, in the future, the 600 MHz Band for wireless services. The proposed rules would eliminate the professional installer option for fixed white space devices and require that each fixed white space device incorporate a geo-location capability to determine its location, and would provide options to accommodate fixed white space device installations in locations where an internal geo-location capability is not able to provide this information. These proposals will improve the accuracy and reliability of the fixed white space device data recorded in the white space databases and assure that the potential to cause interference to protected services is minimized.

DATES: Comments must be filed on or before **[INSERT DATE 45 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, and reply comments must be filed on or before **[INSERT DATE 75 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments, identified by ET Docket No. 16-56, by any of the following methods:

- Federal Communications Commission's Web Site: <http://apps.fcc.gov/ecfs/>. Follow the instructions for submitting comments.
- People with Disabilities: Contact the FCC to request reasonable accommodations (accessible

format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov or phone: 202-418-0530 or TTY: 202-418-0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Hugh L. Van Tuyl, Office of Engineering and Technology, (202) 418-7506, email: Hugh.VanTuyl@fcc.gov, TTY (202) 418-2989.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking and Order (NPRM and Order), ET Docket No. 16-56, FCC 16-23, adopted February 25, 2016 and released February 26, 2016. The full text of this document is available for inspection and copying during normal business hours in the FCC Reference Center (Room CY-A257), 445 12th Street, SW., Washington, DC 20554. The full text may also be downloaded at: www.fcc.gov.

Synopsis of Notice of Proposed Rulemaking

1. In this NPRM, the Commission proposes and seek comment on revisions to the geo-location and registration requirements for fixed white space devices. It proposes to adopt many of the recommendations outlined in the plan submitted by the National Association of Broadcasters and certain white space device manufacturers ("NAB and Manufacturers' Plan") and believes that this approach will improve the integrity of the white space database system and better ensure efficient and beneficial use of white spaces while protecting licensees and other authorized users.

2. Location Data. The Commission proposes to modify section 15.711(c) to eliminate the option for professional installation of fixed white space devices, thereby eliminating the possibility that manual data entry could cause incorrect location data to be stored in the white space device or provided to a database. The Commission proposes to instead require that fixed white space devices include a geo-location capability that can automatically determine its geographic coordinates without manual intervention. It also proposes that the geographic coordinates shall be stored automatically in the fixed white space device and transmitted electronically directly from the device to the database, rather than entered manually in the database, thereby further reducing the possibility of introducing data errors.

3. The Commission proposes that when a fixed white space device is moved to another location or its coordinates become altered, its geographic coordinates and antenna height above ground must be re-established and the device re-registered with a database. With regard to the geographic coordinates, it proposes that they be re-established using an incorporated geo-location capability. The Commission seeks comment on these proposals and on whether a re-registration requirement should apply to any change in location or only those changes where the coordinates differ by more than the accuracy requirement (± 50 meters) from the last registered location. With respect to the antenna height above ground, the Commission seeks comment on whether it should require that this height be determined automatically using the fixed device's incorporated geo-location capability, such as GPS. Because the vertical height accuracy of GPS is typically less than the horizontal location accuracy, the Commission seeks comment on whether it should allow users, including professional installers and operators, to override an automatically determined height if it proves to be inaccurate, or whether it should simply allow users to manually enter the antenna height above ground in all cases.

4. The Commission proposes to modify the current rule that requires a fixed white space device to contact the database at least once a day to verify that its operating channels continue to be available for its use. It proposes to require a fixed white space device to check its coordinates once each day, except when not in operation, and to report its geographic location to the database when it makes its daily request for a list of available channels. The Commission seeks comment on implementing this proposal. Should the geographic coordinates reported each day be treated by the white space database as a modification of the registration record? Should the registration record be updated only if the difference in location exceeds 50 meters? What would be the impact on device manufacturers and database administrators?

5. The Commission recognizes that there will be many important applications for fixed white space devices in which the device needs to be installed where an incorporated geo-location capability will not function (e.g., indoors). Thus, the Commission proposes to permit fixed white space devices to obtain their geographic coordinates from an external source that is connected to the fixed white

space device when the internal geo-location capability does not function. It also proposes that, in cases where the geo-location capability is provided by an external source connected to the fixed white space device, the fixed device and external geo-location source would be required to communicate using a secure method that ensures that the fixed device obtains information only from a source that has been approved for that function by the Commission's equipment certification program. If the fixed white space device is unable to verify that the external source from which it is receiving geo-location data is an approved source, the fixed device would not be allowed to use that received data when reporting its location to the database. The Commission seeks comment on whether each fixed white space device should be associated with specific external geo-location sources or whether manufacturers should have the flexibility to design fixed white space devices to operate with a variety of geo-location sources as long as such sources are approved for use with the fixed white space device.

6. The NAB and Manufacturers' Plan makes specific suggestions for how fixed devices should rely on an external geo-location source for determining the geographic coordinates of a fixed white space device. It suggests that the external geo-location source would be required to be connected at all times to the fixed white space device, and that the fixed white space device would be required to cease transmitting if the connection to the external geo-location source is disconnected or ceased to function properly. NAB and the Manufacturers suggest that the connection between the fixed white space device and the external geo-location source could be by Ethernet, USB, serial port or other connection, and a fixed device would be required to be located within 100 meters of the geo-location source. The parties also suggest that a separate geo-location source may be connected to more than one fixed device at the same general location as long as the white space devices it serves are all located no more than 100 meters from the geo-location source. The Commission requests comment on these specific suggestions. Do the methods suggested by the NAB and Manufacturers' Plan provide sufficient flexibility in the design of fixed devices without compromising our goal of ensuring that a device operates at the location reported to its databases. The Commission seeks comment on whether it is necessary for a fixed white space device to be connected to its external geo-location source by a cable, or whether we could permit the connection

to the geo-location source via wireless. Because allowing wireless connections may create a path for entering erroneous location data, commenters are asked to address whether safeguards tailored to the wireless environment are needed to ensure location data is within the required accuracy guidelines, and, if so, what they should be. The Commission also seeks comment on the appropriate method of obtaining the antenna height above ground for indoor fixed devices (automatic determination or manual entry) that is reported to the white space database.

7. As an alternative to using any type of external geo-location source, the Commission seeks comment on whether a fixed white space device could be connected by a long cable to a separate antenna and continue to rely on its internal geo-location capability. What requirements would be necessary to ensure that the coordinates and location uncertainty reported to the white space database are accurate? Would the suggestions in the NAB and Manufacturers' plan be appropriate for this situation?

8. The NAB and Manufacturers' Plan also suggests another approach for low power (40 mW EIRP) fixed white space devices with an internal geo-location capability that operate indoors where their geo-location capability does not function. Under this provision, the rules would allow a fixed white space device operating with 40 mW or less EIRP to establish its location using its incorporated geo-location capability at a point immediately outside the indoor or other enclosure where the device's geo-location capability does not function, and then to register with its database after the device is installed at its fixed location using the location established at the outdoor point. In such applications, the device would store internally the coordinates of an outdoor position as close as possible to the location where it will be installed and also record the time that it obtained those coordinates. The device would then be installed at its fixed location and register with its database within 30 minutes using the coordinates of the outdoor location. If the device does not complete its registration within the 30 minute period, it would need to start over, re-establish its coordinates at a location where its geo-location capability functions, and initiate a new 30 minute time period. The Commission seeks comment on these suggestions and asks whether this is a workable approach that would provide additional flexibility in the methods for determining geo-location for fixed devices located indoors without increasing the potential for inaccurate

locations to be recorded in the databases and/or increase the potential for interference.

9. The Commission seeks comment on alternative parameters and approaches. Is 40 mW the appropriate power level at which to define a low power fixed white space device or would 100 mW be more appropriate? Is 30 minutes sufficient time for the installer to re-locate the device to a nearby operating location, activate the device, register the device with a database, and complete any other steps necessary for the installation? Is 30 minutes the appropriate amount of time to balance the need for properly completing the installation and registration of a device while limiting the opportunity for relocating the device to a faraway place where it could cause interference?

10. The Commission also seeks comment on where the responsibility would lie in verifying that the fixed white space device registration occurs within the allowable 30 minute time period. Should the capability reside in the fixed white space device whereby after 30 minutes the data would automatically be erased if the device is not successfully registered with a database, or should an associated time stamp for the geo-location data be transmitted to the database which would not permit the registration to proceed if outside the 30 minute window? Should the Commission allow other methods of transferring location data to fixed white space devices—for example, could an outdoor location sensor, such as a GPS receiver, write an encrypted file to an SD Card or USB memory stick that could then be plugged into a fixed white space device? How would such a connection ensure that a fixed device would be located no more than 100 meters from its geo-location source? Under such a scheme, what methods could be used to ensure registration within 30 minutes of determining the fixed white space device's location?

11. Low power fixed white space devices operating indoors where their incorporated geo-location capability does not function would not be able to re-check their coordinates daily and transmit them to the database when verifying their available channel list, unless each day the device was uninstalled and moved to the outdoor location to repeat the entire initial location-determining procedure. The Commission seeks comment on whether in such situations, it should allow these devices to use the coordinates previously obtained at an outdoor position and stored in the device until such time as the

device is moved or disconnected from its power supply, at which point the device would again re-establish its coordinates using its incorporated geo-location capability. If using previously obtained coordinates in this manner would not serve the public interest, does the impracticality of obtaining updated coordinates on a daily basis warrant a rejection of this proposal? Are there other methods for updating the location information of these devices, short of using a wired external geo-location source, which could be employed successfully?

12. Because the Commission adopted rules in the Part 15 White Space Report and Order in ET Docket No. 14-165 that provide flexibility to manufacturers and operators of white space devices that use less accurate geo-location methods, it tentatively concludes that it is not necessary to modify the default location accuracy requirement from ± 50 meters to ± 100 meters as requested in the NAB and Manufacturers Plan. Should parties disagree, the Commission seeks comment on what changes we should make and how they should be implemented.

13. NAB and the Manufacturers request an increase in protection distances that is greater than their requested increase in geo-location uncertainty. If the Commission were to specify a less accurate geo-location requirement, it seeks comment on how much the protection distances to TV contours should change, and on whether and by what amount distances from any other protected service may need to be increased. It also seeks comment on whether rule changes would be needed to account for indoor operations. How could it ensure that the reported geo-location uncertainty of an indoor device is accurate? For example, should a device that obtains its location from a separate geo-location source automatically add a certain amount, such as 100 meters, to its geo-location uncertainty when providing its location to the database? How would such a requirement apply for a device that is moved outdoors to obtain its coordinates and then moved back to an indoor location?

14. The Commission proposes that effective six months after the effective date of the new rules, new applications for certification of fixed white space devices must comply with any rules it adopts in this proceeding requiring incorporated geo-location capability. Further, it proposes that within one year after the effective date of any new rules, manufacturers would no longer be able to manufacture and

import fixed white space devices that do not comply with the new requirements. In order to allow manufacturers to deplete any inventory of devices that do not comply with the new requirements, the Commission proposes to permit the marketing of these devices for up to eighteen months after the effective date of the new rules, but seeks comment on whether it should specify only certification and marketing cutoff dates (e.g., six months for certification and 12 or 18 months for marketing), and allow manufacturers to decide their manufacturing and importation cutoff dates. The Commission proposes to permit users of fixed white space devices that do not comply with new rules to continue to operate their devices indefinitely. Because the majority of fixed white space devices in operation today do not include a geo-location capability and would not be able to easily recheck their coordinates every day and transmit them to the database, the Commission seeks comment on whether allowing their continued operation would pose any concerns about the integrity of the data in the database.

15. The Commission proposes to treat equipment changes that simply add an incorporated geo-location capability to an existing certificated device as a permissive change under its equipment authorization rules. It seeks comment on the proposed timeframes for implementing any new requirements for incorporating a geo-location capability into all fixed white space devices and whether they are appropriate to provide for a smooth transition to new devices.

16. Finally, the Commission invites comment on the expected costs and benefits of the proposed rule changes in this section and whether the benefits will outweigh the costs. Parties who make specific suggestions for implementing the proposals also should address the costs and benefits associated with their suggestions.

17. Device Identification, Contact Information and Other Data Issues. The current rules assign responsibility for the accuracy of the registration information either to the party who provides the information to the database or to the party who is responsible for the white space device. Because the rules are not clear as to which party is responsible for the white space device, and thus for entering and maintaining the registration information, the Commission seeks comment on whether the responsible party should be the owner, the contact person, or some other party.

18. The Commission proposes to require the white space database that originates a registration request for a fixed device to confirm the e-mail address and telephone number entered for the contact person. It also proposes that the database not provide service to the device nor share the registration information with other approved white space databases until it receives a confirming response from the party responsible for the device registration. The Commission further proposes that the white space database confirm the contact person's information if any of the identifying information is modified. Under these proposals, a white space database administrator would be allowed to implement the confirmation requirement using a method of its choosing as long as that method obtains a confirming response that 1) the party addressed in the message is responsible for the operation of the subject fixed device, and 2) the e-mail address and telephone number for that party are correct and appropriate to reach that party in a timely manner.

19. Finally, the Commission invites comment on the expected costs and benefits of the proposed rule changes in this section and whether the benefits will outweigh the costs. Parties who make specific suggestions for implementing the proposals also should address the costs and benefits associated with their suggestions.

20. Other Issues. The Commission does not propose to amend its rules to incorporate new accountability and/or enforcement measures to ensure the integrity of the registration information for fixed devices as requested by NAB. The current rules already place responsibility for the accuracy of the data entered for fixed device registrations on the party responsible for the device and hold database administrators responsible for verifying, correcting and removing inaccurate data. These existing rules and the proposals set forth in this Notice, along with the ongoing oversight of Commission staff, are sufficient and appropriate for addressing these issues.

PROCEDURAL MATTERS

21. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible

¹ See 5 U.S.C. 603. The RFA, see 5 U.S.C. 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. 104-121, Title II, 110 Stat. 857 (1996).

significant economic impact on a substantial number of small entities by the policies and rules proposed in this Notice of Proposed Rule Making (NPRM). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the NPRM. The Commission will send a copy of the NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).² In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.³

A. Need for, and Objectives of, the Proposed Rules

22. The NPRM proposes to amend Part 15 of the Commission's rules to improve the quality of the geographic location and other data submitted for fixed white space devices operating on unused frequencies in the TV Bands and, in the future, the new 600 MHz Band for wireless services. The proposals are designed to improve the integrity of the white space database system and, as white space device deployments grow, to increase the confidence of all spectrum users of these frequency bands that the white space geolocation/database spectrum management scheme fully protects licensees and other authorized users.

23. The NPRM responds to a petition submitted by the National Association of Broadcasters (NAB) alleging that there are data errors in the registration records for fixed devices in the white space databases, and requesting that the Commission undertake rulemaking and other actions to correct and avoid such errors.

B. Legal Basis

24. The proposed action is taken pursuant to sections 1, 4(i), 7(a), 302(a), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154(i), 157(a), 302(a), 303(f), and 303(r).

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

25. The RFA directs agencies to provide a description of, and where feasible, an estimate of

² See 5 U.S.C. 603(a).

³ See 5 U.S.C. 603(a).

the number of small entities that may be affected by the proposed rules, if adopted.⁴ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁵ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁶ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷

26. Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. The Census Bureau defines this category as follows: “This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.”⁸ The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees. According to Census Bureau data for 2007, there were a total of 939 establishments in this category that operated for part or all of the entire year. Of this total, 912 had less than 500 employees and 17 had more than 1000 employees.⁹ Thus, under that size standard, the majority of firms can be considered small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

⁴ See 5 U.S.C. 603(b)(3).

⁵ See 5 U.S.C. 601(6).

⁶ See 5 U.S.C. 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. 632). Pursuant to 5 U.S.C. 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

⁷ See 15 U.S.C. 632.

⁸ The NAICS Code for this service 334220. See 13 CFR 121/201. See also http://factfinder.census.gov/servlet/IBQTable?_bm=y&-fds_name=EC0700A1&-geo_id=&-_skip=300&-ds_name=EC0731SG2&-_lang=en

⁹ See http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=4500&-ds_name=EC0731SG3&-_lang=en

27. White space devices are unlicensed devices that operate in the TV bands, and in the future, the 600 MHz band, at locations where frequencies are not in use by licensed services. The rules provide for three types of white space devices: fixed, and Mode I and Mode II personal/portable devices. To prevent harmful interference to protected services, the rules generally require that white space devices provide their geographic coordinates to a white space database and operate only on location specific channels provided by that database. The location for fixed white space devices may be determined either through an internal geo-location capability or by a professional installer.¹⁰ Additionally, a fixed white space device must register with a database and, in addition to its location, must also provide the device's identifying information (FCC identification number and manufacturer serial number), antenna height, the name of its owner, and contact information for the party responsible for its operation.

28. Most RF transmitting equipment, including white space devices, must be authorized through the certification procedure. Certification is an equipment authorization issued by the Commission or by a designated TCB based on an application and test data submitted by the responsible party (e.g., the manufacturer or importer). The NPRM does not propose to change the authorization procedure for white space devices, but it does propose to establish new technical requirements or modify existing technical requirements for white space devices. Specifically, the NPRM proposes the following changes to the fixed white space device compliance requirements:

29. Fixed white space device geo-location requirements. The proposed rules would eliminate the professional installer option for fixed white space devices. Instead, a fixed white space device would be required to include a geo-location capability that can determine its geographic coordinates without manual intervention. The proposed rules would also require that the geographic coordinates be stored automatically in the fixed white space device and transmitted electronically directly from the device to the databases. In addition, a fixed white space device would be required to check its coordinates once each day using its geo-location capability and to report its geographic location to the database daily when it makes a request for a list of available channels.

¹⁰ Mode I and Mode II personal/portable devices have differing requirements which are not described herein because the NPRM addresses only fixed white space devices.

30. The NPRM also proposes options to accommodate fixed white space device installations in locations where an internal geo-location capability is not able to provide this information. It proposes to permit fixed white space devices to obtain their geographic coordinates from an external source that is connected to the fixed white space device when the internal geo-location capability does not function. It also proposes that in cases where the geo-location capability is provided by an external source connected to the fixed white space device, the fixed device and external geo-location source would be required to communicate using a secure method that ensures that the fixed device obtains information only from a source that has been approved for that function by the Commission's equipment certification program.

31. Transition requirements for fixed white space device rule changes. The NPRM proposes that, effective six months after the effective date of the new rules, new applications for certification of fixed white space devices must comply with any rules the Commission adopts in this proceeding requiring incorporated geo-location capability. The NPRM also proposes that, within one year after the effective date of any new rules, manufacturers would no longer be able to manufacture and import fixed white space devices that do not comply with the new requirements. In order to allow manufacturers to deplete any inventory of devices that do not comply with the new requirements, the NPRM proposes to permit the marketing of these devices for up to eighteen months after the effective date of the new rules. In addition, the NPRM proposes to permit fixed white space devices that do not comply with new rules to continue to operate indefinitely. Further, it proposes that the Commission would treat equipment changes that simply add an incorporated geo-location capability to an existing certificated device as a permissive change.

32. Fixed white space device registration requirements. The NPRM proposes to require the white space database that receives the initial registration request for a fixed device to confirm the e-mail address and telephone number entered for the contact person. It also proposes that the database not provide service to the device nor share the registration information with other approved white space databases until it receives a confirming response from the party responsible for the device registration. The NPRM further, proposes that the white space database confirm the contact person's information if

any of the identifying information is modified (e.g., updating the e-mail address or phone number). A white space database administrator would be allowed to implement the confirmation requirement using a method of its choosing as long as that method obtains a confirming response that 1) the party addressed in the message is responsible for the operation of the subject fixed device, and 2) the e-mail address and telephone number for that party are correct and appropriate to reach that party in a timely manner.

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

33. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”¹¹

34. The proposed requirement for all fixed white space devices to incorporate a geo-location capability would require changes to previously approved devices, because most approved fixed devices rely on the use of a professional installer and do not have a geo-location capability. As discussed above, the NPRM proposes transition and grandfathering provisions to minimize the impact on fixed white space device manufacturers and users. It proposes that manufacturers could continue to apply for certification of devices under the current rules for up to six months after the effective date of any new rules, and that changes that simply add an incorporated geo-location capability to an existing certificated device would be processed under the streamlined “permissive change” rules.¹² The NPRM also proposes that parties could continue to manufacture and import devices that comply with the current rules for up to one year after the effective date of any new rules. In order to allow manufacturers to deplete any inventory of devices that do not comply with new requirements, the NPRM proposes to permit the marketing of these

¹¹ 5 U.S.C. 603(c)(1) – (c)(4).

¹² 47 CFR 2.1043.

devices for up to eighteen months after the effective date of any new rules. Additionally, the NPRM proposes to permit fixed white space devices that do not comply with any new rules adopted in this proceeding to continue to operate indefinitely.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

35. None.

36. Paperwork Reduction Act Analysis. This document contains proposed new information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

ORDERING CLAUSES

37. Pursuant to sections 1, 4(i), 7(a), 302(a), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154(i), 157(a), 302a(a), 303(f), and 303(r), this Notice of Proposed Rule Making IS ADOPTED.

38. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice of Proposed Rule Making, including the Initial Regulatory Flexibility Analysis to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 15

Communications equipment, Radio, Reporting and recordkeeping requirements.

FEDERAL COMMUNICATIONS COMMISSION.

Marlene H. Dortch,
Secretary.

Proposed Rules

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 15 as follows:

PART 15 – RADIO FREQUENCY DEVICES

1. The authority citation of part 15 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303, 304, 307, 336, 544a, and 549.

2. Section 15.711 is amended by revising paragraphs (b)(1) and (c)(1), redesignating paragraph (c)(2) as (c)(5), adding new paragraphs (c)(2) through (4), and revising newly redesignated paragraphs (c)(5)(ii) and (iv) to read as follows:

§ 15.711 Interference avoidance methods.

* * * * *

(b) * * *

- (1) Accuracy. Fixed and Mode II white space devices shall determine their location and their geo-location uncertainty (in meters), with a confidence level of 95%.

* * * * *

(c) * * *

- (1) The geographic coordinates of a fixed white space device shall be determined automatically by an incorporated geo-location capability prior to its initial service transmission at a given location and each time the device is activated from a power-off condition to determine the available channels and the corresponding maximum permitted power for each available channel at its geographic coordinates, taking into consideration the device's geo-location uncertainty. The fixed white space device shall check its location once each day, except when not in operation, and store this information automatically in the device.

- (2) If the fixed white space device is located where the incorporated geo-location capability does not function, the fixed device may obtain its geographic coordinates from an external geo-location source that is connected to the fixed device using a secure method that ensures that the external geo-location

source has been approved for that function by the Commission's equipment certification program.

(3) The fixed white space device shall transmit electronically its geographic coordinates and antenna height above ground to the white space database from which it obtains its list of available channels for operation at the time it registers. The fixed white space device shall electronically transmit this information to the white space database on a daily basis when the device requests a list of the available channels for operation.

(4) If a fixed white space device is moved to another location or its stored geographic coordinates become altered, the device shall re-establish its:

(i) Geographic coordinates; and

(ii) Registration with the white space database based on the device's new coordinates and antenna height above ground level.

(5)(i) * * *

(ii) Operation is permitted only on channels and at power levels that are indicated in the white space database as being available for each white space device. Operation on a channel must cease immediately or power must be reduced to a permissible level if the database indicates that the channel is no longer available at the current operating level.

* * * * *

(iv) Fixed white space devices without a direct connection to the Internet: A fixed white space device may not operate on channels provided by a white space database for another fixed device. A fixed white space device that has not yet been initialized and registered with a white space database consistent with §15.713 of this part, but can receive the transmissions of another fixed white space device, may transmit to that other fixed white space device on either a channel that the other white space device has transmitted on or on a channel which the other white space device indicates is available for use to access the database to register its location and receive a list of channels that are available for it to use. Subsequently, the newly registered fixed white space device must only use the channels that the database indicates are available for it to use.

* * * * *

3. Section 15.713 is amended by revising paragraph (g)(3)(iii) and adding paragraph (g)(4) to read as follows:

§ 15.713 White Space Database.

* * * * *

(g) * * *

(3) * * *

(iii) Device's geographic coordinates (latitude and longitude (NAD 83)) including the location uncertainty, in meters;

* * * * *

(4) The white space database that receives a fixed white space device registration shall confirm the e-mail address and telephone number of the contact person responsible for the operation of the fixed device. The database shall not provide service to the fixed device nor share the registration information with other approved white space databases until it receives a confirming response from the contact person verifying their information. If the registration record is modified to identify a new contact person or to provide a new e-mail address or telephone number, the white space database shall verify the new information before continuing to provide service to the fixed white space device.

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